

REMARKS

Reconsideration and allowance of the claims of the present application are respectfully requested. As no amendments have been made, claims 1 and 3-11 are pending.

In the Advisory Action, the Examiner remains unpersuaded by the arguments submitted by Applicants in the previous Response dated May 4, 2010 ("previous Response"). In particular, the Examiner is not convinced that comparative Examples 1 and 2 of the instant application, as expounded upon in the previous Response, sufficiently demonstrate a compelling difference in properties between the protein composition disclosed in U.S. Patent 5,514,666 to Cerda et al. ("Cerda et al.") and the protein composition of the claimed invention. The Examiner has also maintained the rejection of claims 1-7, 10, and 11 under 35 U.S.C. § 103(a) for alleged obviousness in view of Cerda et al., as well as the rejection of claims 8 and 9 for alleged obviousness in view of Cerda et al. and the May reference.

As discussed in the previous Response, Example 1 (page 6 of the application) describes the preparation of a protein powder by homogenization of a protein base with pectin (in this case, the pectin corresponds to high ester Grindsted[®] AMD 783). The "test sample" under Example 2 is prepared by mixing the protein-pectin homogenized powder of Example 1 into an aqueous solution. The "reference sample" under Example 2 is prepared by, first, preparing a protein powder by the same conditions of Example 1, except that no pectin was included; the resulting protein powder is then dry blended with pectin, and the resulting dry blend is mixed (not homogenized) into an aqueous solution under the same conditions as the "test sample" under Example 2. As shown by the tabulated results on page 8 of the application, the "test sample" solution under Example 2 showed no separation or sedimentation (i.e., it was

stable), while the "reference sample" solution under Example 2 showed phase separation and sedimentation.

The Examiner disagrees that the reference sample of Example 2 properly represents the composition described in col. 4, lines 14-41 of Cerda et al. Specifically, the Examiner contends that, while the reference sample describes (a) homogenizing a protein and water mixture; (b) drying the mixture to form a powder; and (c) dry mixing the powder with pectin, Cerda et al. describes (a) mixing protein, pectin, and water, and (b) drying the mixture.

However, it appears that the Examiner has overlooked the significant fact that the reference sample of the instant application is ultimately mixed into water, as in Cerda et al. Whether the protein and pectin are separately homogenized and/or dry mixed before mixing into water (as in the reference sample) or mixed at once into water (as in Cerda et al.) appears to be inconsequential. It is the final reconstituted liquid composition of the reference sample that is analyzed in the instant application (see page 8 therein). The extra steps noted for producing the reference sample relative to Cerda et al. (e.g., homogenizing a protein and water mixture, drying the mixture to a protein powder, and dry mixing the protein powder with pectin, before dissolving the dry mixture into water) would be expected, by one skilled in the art, to produce a substantially similar result as compared to directly dissolving the components of the dry mixture in water (as in Cerda et al.) without any of the preceding preparatory steps recited in the instant reference sample.

Moreover, as would be further appreciated by one skilled in the art, the reference sample of Example 2 is prepared by means more favorable for causing adsorption of pectin onto protein (and thus, more favorable for imparting stability to the resulting liquid composition when reconstituted), as compared to the process described in Cerda et al. Specifically, homogenization

of the protein with water before mixing with pectin would be expected to decrease the size, and thus, increase the surface area, of the protein particles, thereby encouraging pectin adsorption and stabilization of a resulting liquid composition. However, Applicants consider it quite profound, that even with the advantage of homogenization of protein prior to mixing with pectin in water, the reference sample of Example 2 is found to be unstable relative to the formulation of instant Example 1 in which the protein and pectin are homogenized together.

Thus, the Examples of the instant application compellingly demonstrate a significant difference between the claimed formulation, wherein homogenization of protein and pectin is employed, and that of Cerda et al., wherein only simple mixing without homogenization is employed. Moreover, as discussed above, the instant Examples are further compelling because the reference sample therein includes additional steps, relative to Cerda et al., which would be expected to produce a reconstituted liquid composition more stable than that of Cerda et al. Lastly, Applicants consider the reference sample of Example 2 to be further significant in that it demonstrates that homogenization of a mixture of protein and pectin, and not a preceding homogenization step on only one of the components, is specifically responsible for the improved effect.

The Examiner has also maintained the rejection of claims 1-7, 10, and 11 under 35 U.S.C. § 103(a) for alleged obviousness in view of Cerda et al., as well as the rejection of claims 8 and 9 for alleged obviousness in view of Cerda et al. and the May reference. In making the rejection, the Examiner contends that Cerda et al. teach a protein powder composition containing protein and pectin. The Examiner acknowledges that Cerda et al. teach an amount of pectin (i.e., 30-35% pectin) that differs from the claimed pectin amount of 3-15%. Regarding this difference, the Examiner maintains that the amount of pectin is an adjustable non-critical

variable, subject to routine optimization by one skilled in the art. Accordingly, the Examiner does not consider the claimed pectin range to confer patentability to the claims.

In Applicants' previous Response, Applicants refuted the Examiner's assertion that the lower pectin amount of the instant claims could be contemplated or accomplished by one skilled in the art by routine experimentation. First, it is understood that a main purpose of the pectin is to render the protein powder stabilized when the protein powder is mixed into a liquid (see page 4, lines 12-18 of the application as filed). Significantly, the lower amount of pectin in the claimed protein powder (i.e., relative to compositions of the art, such as Cerda et al.) is highly advantageous for the reason that less pectin is used to manufacture a stabilized protein powder. It would be appreciated by one skilled in the art that such a significantly lower amount of pectin (i.e., less than half in many cases) results in significant reductions in cost. Furthermore, the significantly reduced amount of pectin endows the protein powder with the highly desired characteristic, when admixed into a liquid, of producing a protein-containing liquid with a significantly lowered viscosity as compared to the viscosity of such liquids that contain higher amounts of pectin (see page 5, lines 35-36 of the application as filed).

With all of these advantages of a lower amount of pectin, Applicants consider it significant that Cerda et al. teach a minimum amount of pectin that is at least two times the amount of the claimed maximum amount of pectin. Applicants contend that the reason Cerda et al. teach such a higher amount of pectin is because, in contrast to the instant claims, Cerda et al. do not teach the feature of the instant claims that the pectin is adsorbed to the protein base. The adsorption of pectin, as claimed, allows the protein base to be significantly stabilized, but with significantly less pectin as compared to protein base that is not adsorbed with pectin. Without the adsorption of pectin, Cerda et al. are attempting to impart stability of the protein powder by

compensating with a much larger amount of pectin. However, as discussed earlier, use of a much larger amount of pectin is undesirable because it increases costs and raises the viscosity of liquid into which the protein powder has been admixed.

In the Advisory Action, the Examiner remains unconvinced by the above arguments that the amount of pectin, as recited in the instant claims, is a patentable feature of the claimed invention. In particular, the Examiner contends that one skilled in the art would expect that using a lower amount of pectin would result in a cost savings and lower viscosity. However, Applicants consider the Examiner's reasoning in this regard to be significantly flawed in that Cerda et al. does not anywhere suggest that a lower amount of pectin could be achieved using the simple mixing methods taught therein. As the high amounts of pectin used in Cerda et al. are disadvantageous for the reasons given, one skilled in the art would consider Cerda et al. to teach such high amounts precisely because they are necessary or optimal according to the methodology described in Cerda et al. In contrast to the claimed invention, Cerda et al. has apparently not recognized a way to reduce the amount of pectin and at the same time produce a completely stable liquid composition of a protein-pectin complex.

In particular, in contrast to the claimed invention, Cerda et al. do not in the least recognize that homogenization of a mixture of protein and pectin would be capable of achieving such lower amounts of pectin. Cerda et al. provide no suggestion to one skilled in the art that a protein powder composition with a lower amount of pectin from about 3 to about 15% pectin, as claimed, could produce a stable liquid composition when reconstituted. As stated above, by reliance on simple mixing methods, Cerda et al. attempt to impart stability of the protein powder by, instead, compensating with a much larger amount of pectin. Therefore, the simple mixing method of Cerda et al. would not be expected to achieve a stable liquid composition using the

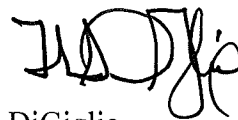
lower amounts of pectin instantly claimed. Thus, Applicants consider it clearly evident that one skilled in the art would not, in any way, be motivated to modify Cerda et al. by drastically reducing the amount of pectin prescribed therein.

Furthermore, Applicants contend that an attempt by one skilled in the art to drastically reduce the pectin amount by using the methodology taught in Cerda et al. would fail to produce the pectin-absorbed stable composition instantly claimed. This contention is well-supported by the instant comparative examples, as discussed above, which demonstrate the criticality in employing a homogenization step as opposed to a simple mixing step, as employed in Cerda et al. Applicants consider the foregoing aspects of Cerda et al. to further confirm the non-obviousness, and hence, patentability, of the instant claims in view of Cerda et al.

Therefore, Applicants have shown that the claims, as amended, are not obvious in view of Cerda et al. The § 103(a) rejections are, thus, overcome. Withdrawal thereof is respectfully requested.

In view of the foregoing remarks, Applicants firmly believe that the pending claims are in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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